Git & GitHub (Introduction and Practical session)

Session by Atharva Ikhar

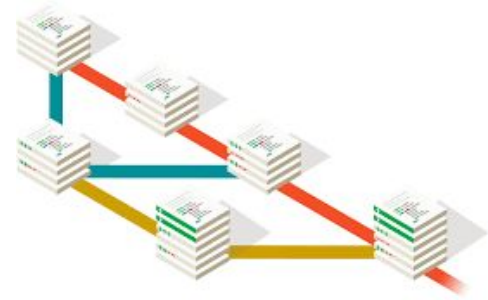Associate Software Engineer

What is GitHub?

when a non programmer
or hacker go to github

What is Git? And Why we need it?

Git is software for tracking changes in any set of files, usually used for coordinating work among programmers collaboratively developing source code during software development.

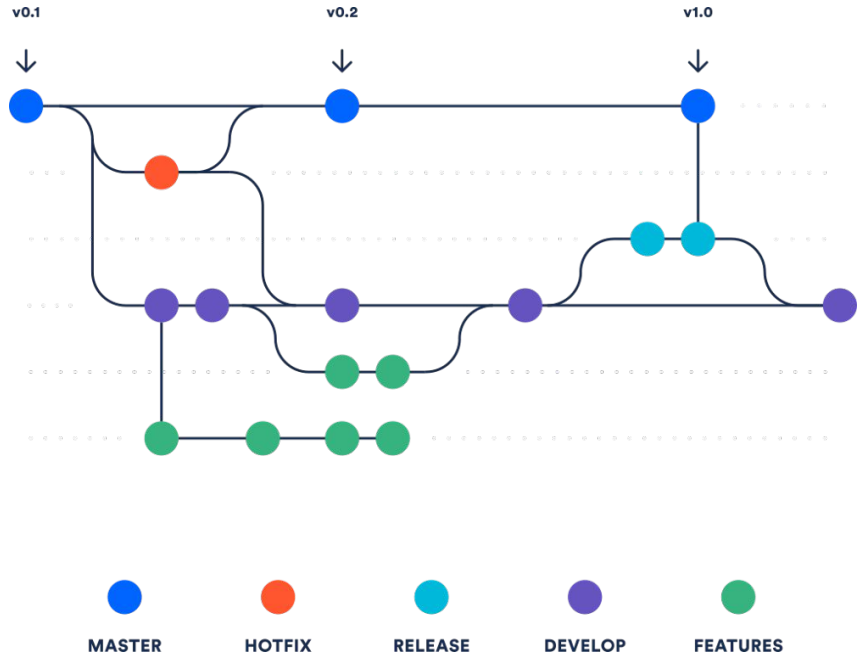Let's see in simple terms by breaking it .....

Have you ever faced this situation?

- While working on a project, have you ever faced situation that you have updated a piece of code and then realise it later that previous code was actually effective?

- When project is complete and while giving the demo, you realise some piece of code is malfunctioning but doesn't know who worked on it?
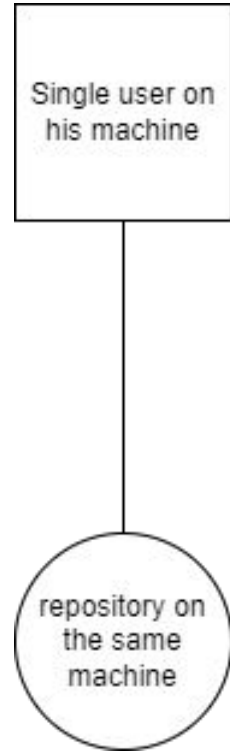
- Or Want to make two version of the same project/program?

Solution: Version Control System.

- Local Version Control System.

- Centralized Version Control System

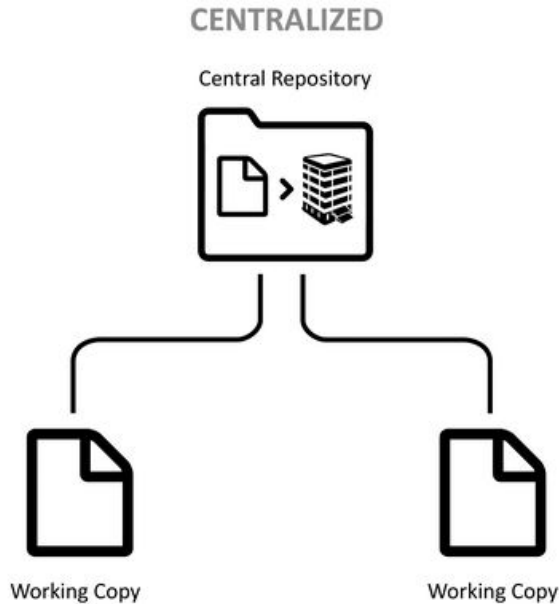- Distributed Version Control System

v0.1   v0.2   v1.0

MASTER   HOTFIX   RELEASE   DEVELOP   FEATURES

@iatharva

Solution: Version Control System.(1)

- Local Version Control System.

- https://learngitbranching.js.org/?NODEMO

Single user on his machine
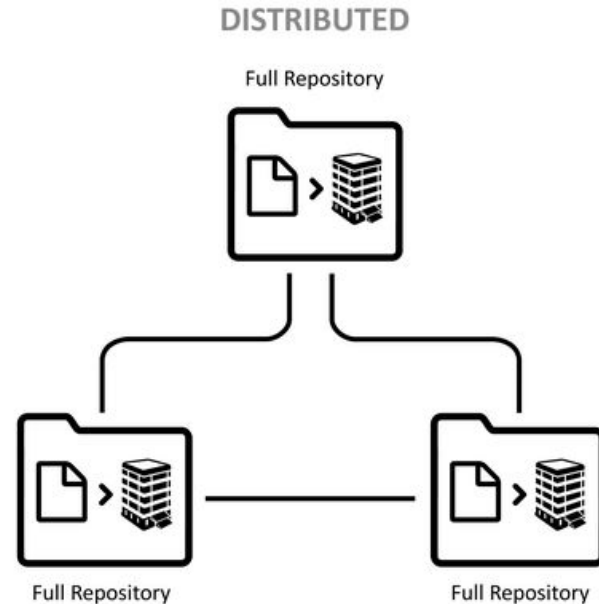
repository on the same machine

Solution: Version Control System.(2)
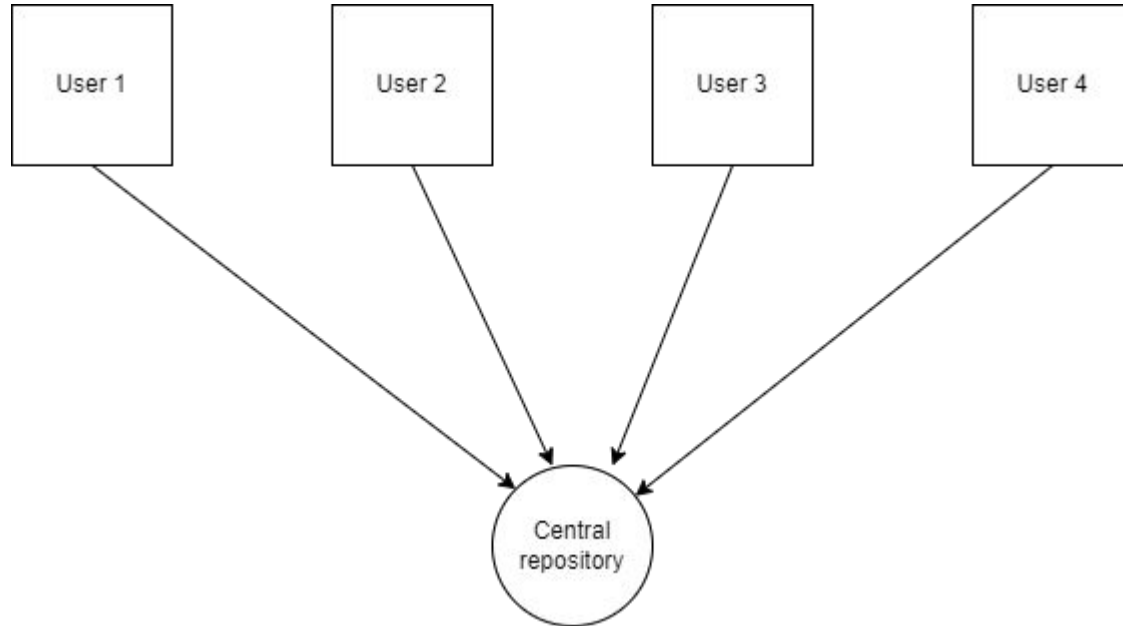
Centralized Version Control System   Distributed Version Control System
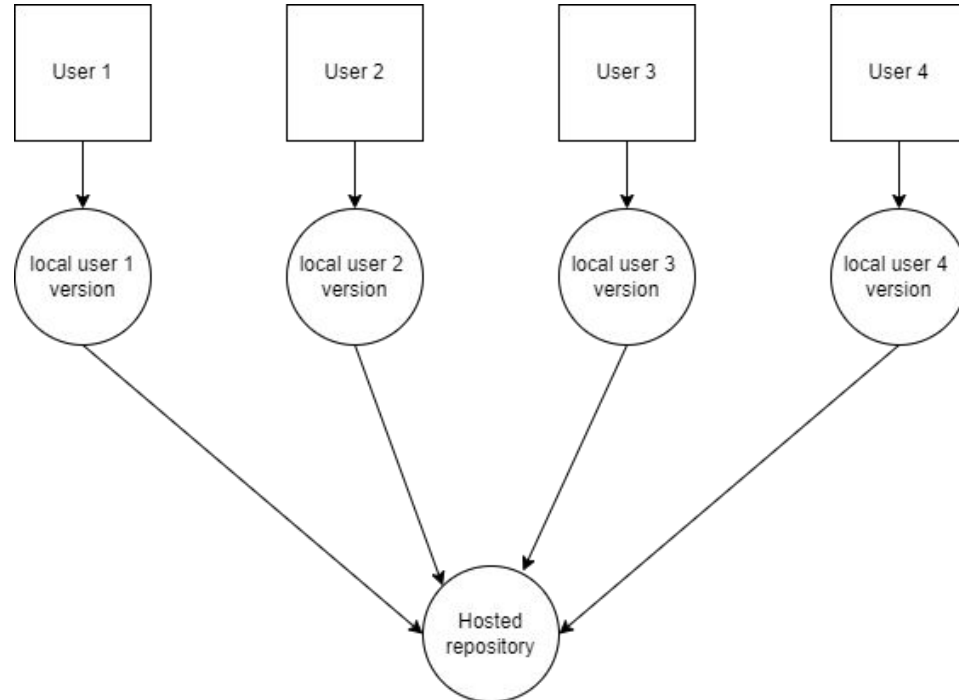
Solution: Version Control System.(2)

Centralized Version Control System

Solution: Version Control System.(2)

Distributed Version Control System

1. Take away:

➜ **We learned "what is VCS?"**

➜ **Why it is needed?**

➜ **About it's background.**

Any Questions?

What is Git?

- It is Local Version Control System.

What is GitHub?
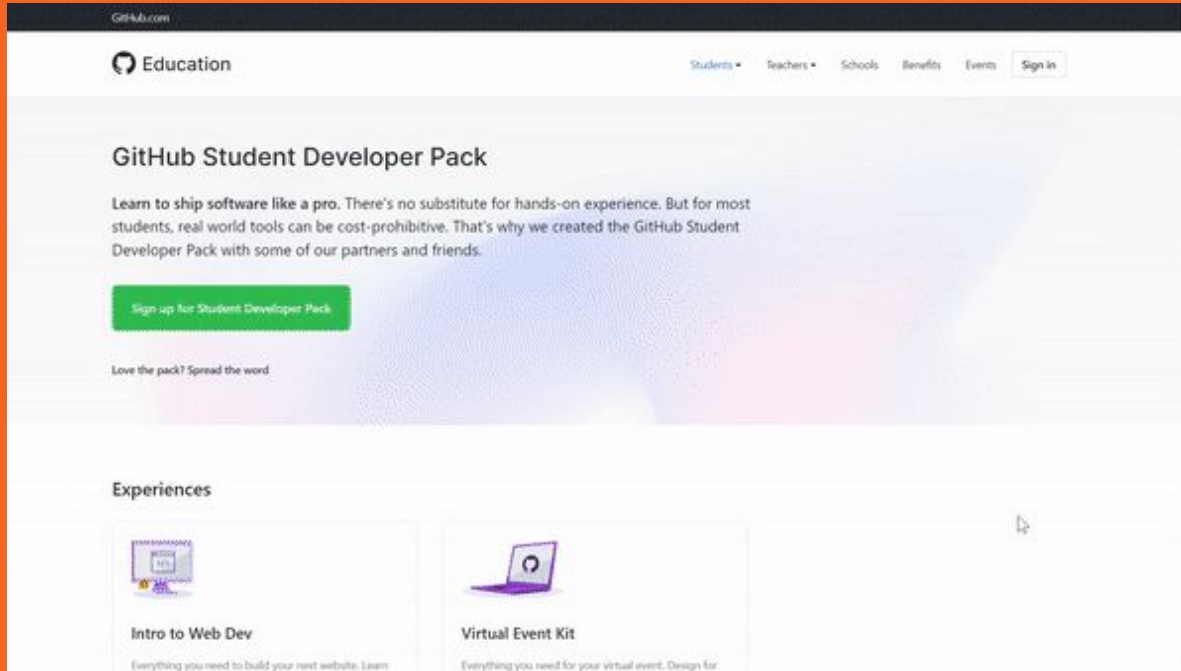
- It is Remote Distributed Version Control System.

  - Linus Torvalds has hosted the Linux kernel source tree (with all documentations and subdirectories) on GitHub, and he works on it frequently.
  - Microsoft acquired GitHub, for $7.5 billion in stock.
  - Github have over 73 million developers and more than 200 million repositories (including at least 28 million public repositories)

Famous software/tech hosted on GitHub-
FreeCodeCamp, Vue, React, Tensorflow, Bootstrap, VS Code and many more.

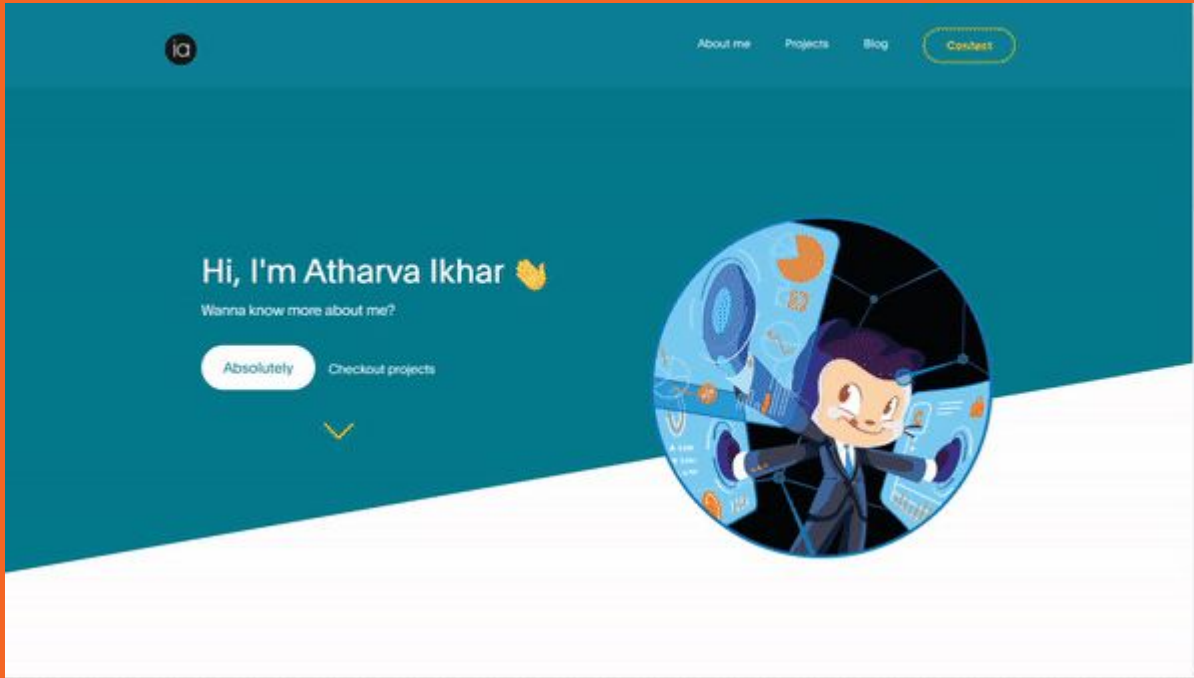THIS IS MY FACE WHEN SOMEONE USE "GIT" AND "GITHUB" INTERCHANGEABLY
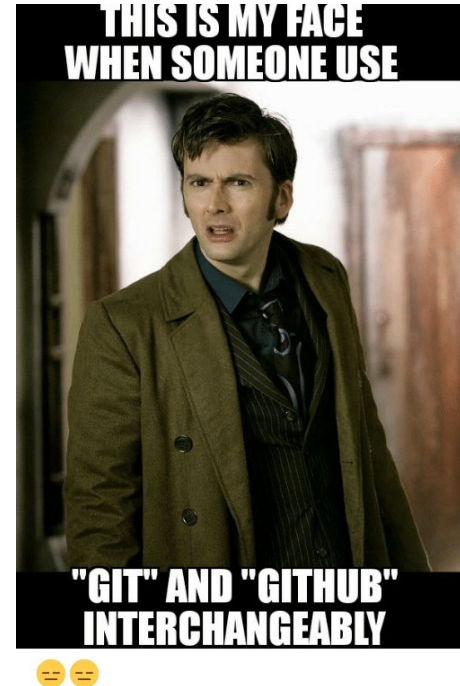
GitHub Student Developer Pack

Tip

You can get it at
https://education.github.com/pack

Get your own cool website for free

Tip

You can read more about it here
https://pages.github.com/
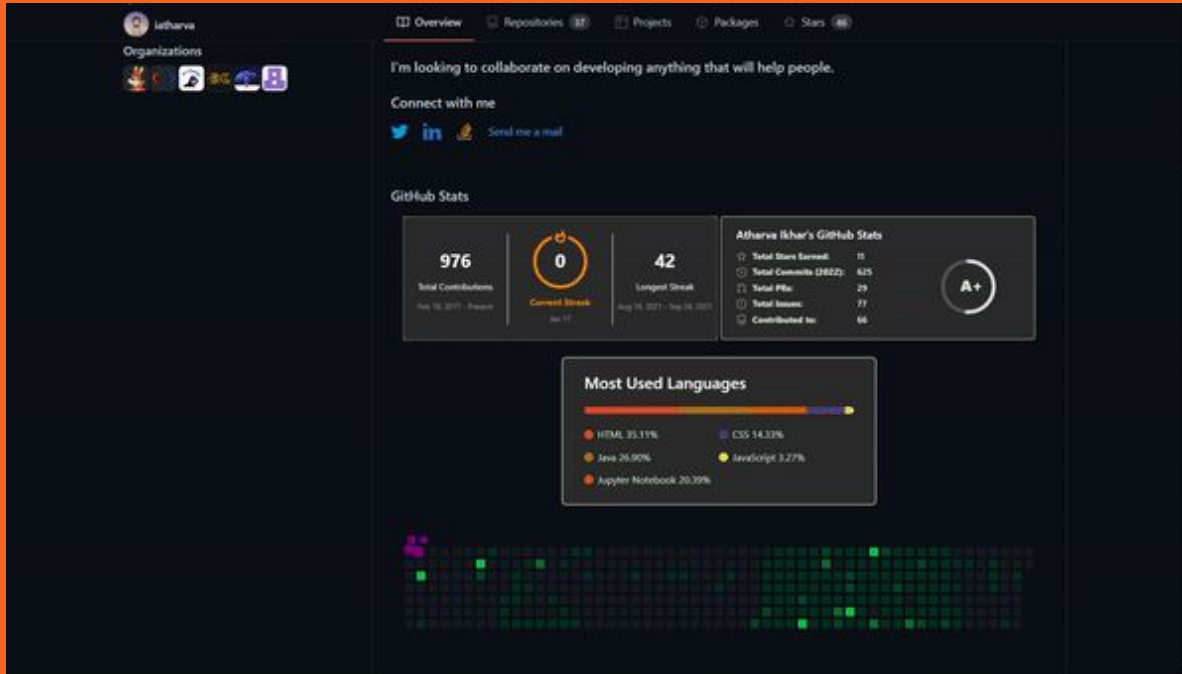
Show off your stats anywhere

Tip

Heck, you can even add your github profile link on your resume 😎

Positive, Humble and helpful community

Let's get familiar with the basic terms and lingos first

Tip

Revising it again after the lectures would clear your concepts for sure.

Repository.

Repo

(Folder or a project which is git initialized

or uploaded on

github/gitlab or some vcs)

—

README.md.

In repo

(Contains the information about the project/repository so the other person/developers won't be clueless.
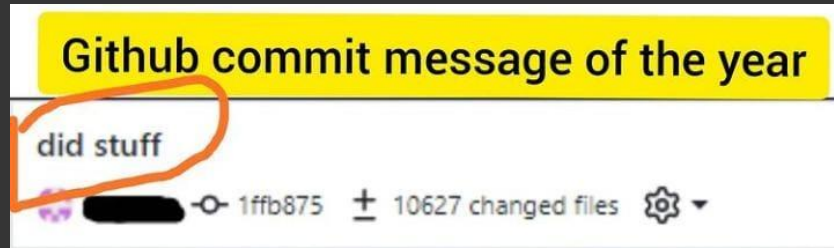
- Uses markdown language)

when you start using github project without finishing README.MD

HAVE YOU TRIED

READING THE #README?

Commit.

(creating a snapshot of the files at a particular point in time)

Github commit message of the year

did stuff

1ffb875 ± 10627 changed files ⚙ ▾

When you're dead but remember you forgot to git commit git push your last code iterations

gettyimages

gettyimages

—

Git logs.

(See all the detailed information
on all commits)

I DO KNOW WHO YOU ARE
FROM GIT LOG, AND I WILL REVERT YOU!

Branch.

(Creating another version of project)

_

Pull Request.

PR

(When you have made some changes in someone else's code and want them to merge your code and their code to result in new improved code/project)

—

Maintainer.

In PR

(To avoid/resolve conflicts maintainer of the repo review the code which is submitted by contributor)

—

Contributor.

In PR

(Please like you and me who make some changes(by making useful PR) & want to help in project)

SUBMIT PULL REQUEST ON GITHUB

REQUEST ACCEPTED BY PROJECT MAINTAINER

Conflicts.

In PR

(When you are merging your code in different version than previous version)
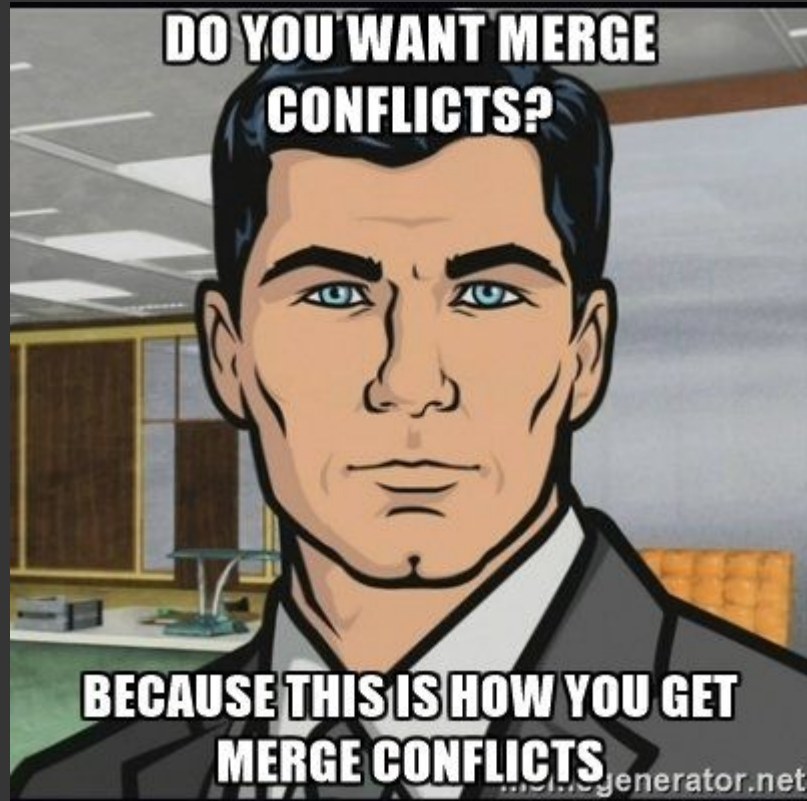
Code review.

In PR

(To avoid/resolve conflicts maintainer of the repo review the code which is submitted by contributor)

@iatharva

Approval.

In PR

(Once code is reviewed it can be either in approved state, rejected state or changes needed)

Me adding comments to the PR of a colleague who didn't approve my PR :
MEME
SC#E
HAMARI BADLA LENE KI PARAMPARA HAI

_

Merging the code.

from PR

(When you have made some changes in someone else's code and want them to merge your code and there code to result in new improved code/project)

When you are gonna merge two branches after long time..

Next Session.

Let's get our hands dirty

Reference for how to create github account

https://dev.to/iatharva/how-to-create-github-account-for-beginners-52k8

Any Questions?

You can reach me from iatharva.github.io

Thank you for your time

And hope you step into open source and become a active contributor towards the community.

@iatharva